

Solar Drier Plans: PGCP Coconut Drier and Kenya Black Box Drier

Compiled by Matthew G. Green & Dishna Schwarz (2001)

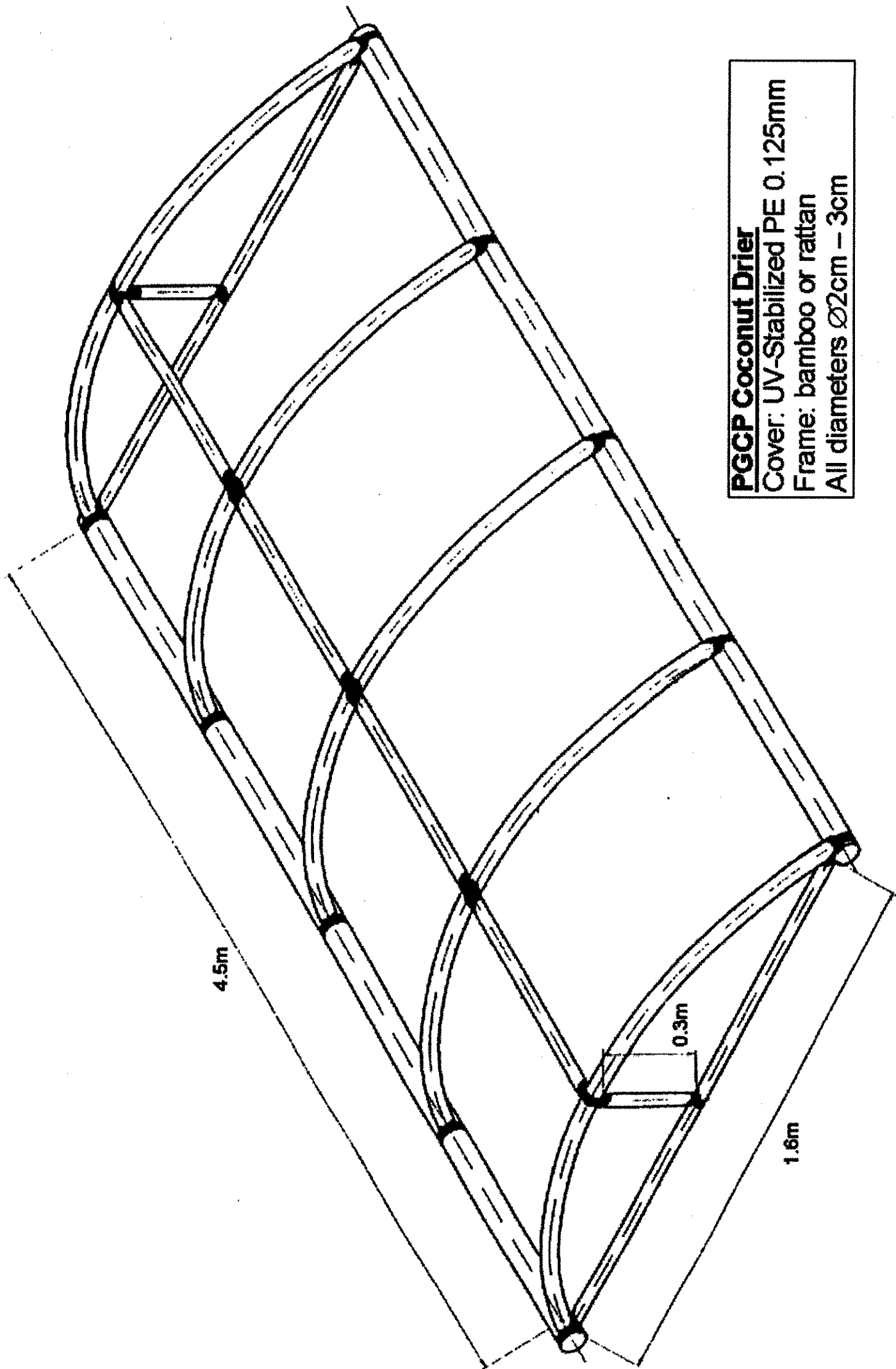
Technical Field:

- ☒ Energy / Environment (E)
- ☐ Water / Sanitation (W)
- ☐ Agriculture (A)
- ☐ Foodprocessing (F)
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Note: For the operating characteristics of these driers, please refer to GATE Technical Information E15e, "Solar Drying Equipment: Notes on Three Driers" by the same authors.



PGCP Coconut Drier

Cover: UV-Stabilized PE 0.125mm

Frame: bamboo or rattan

All diameters Ø2cm – 3cm

Construction Notes for the PGCP Coconut Drier

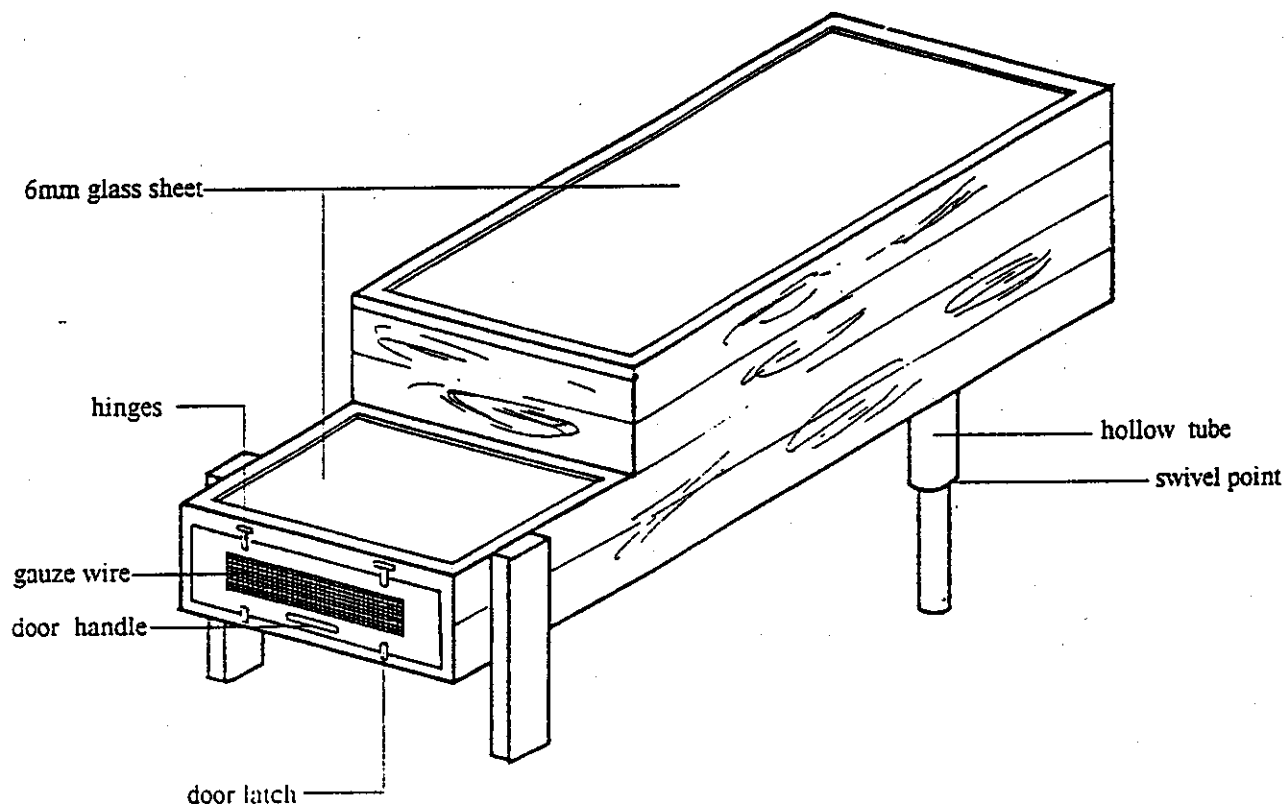
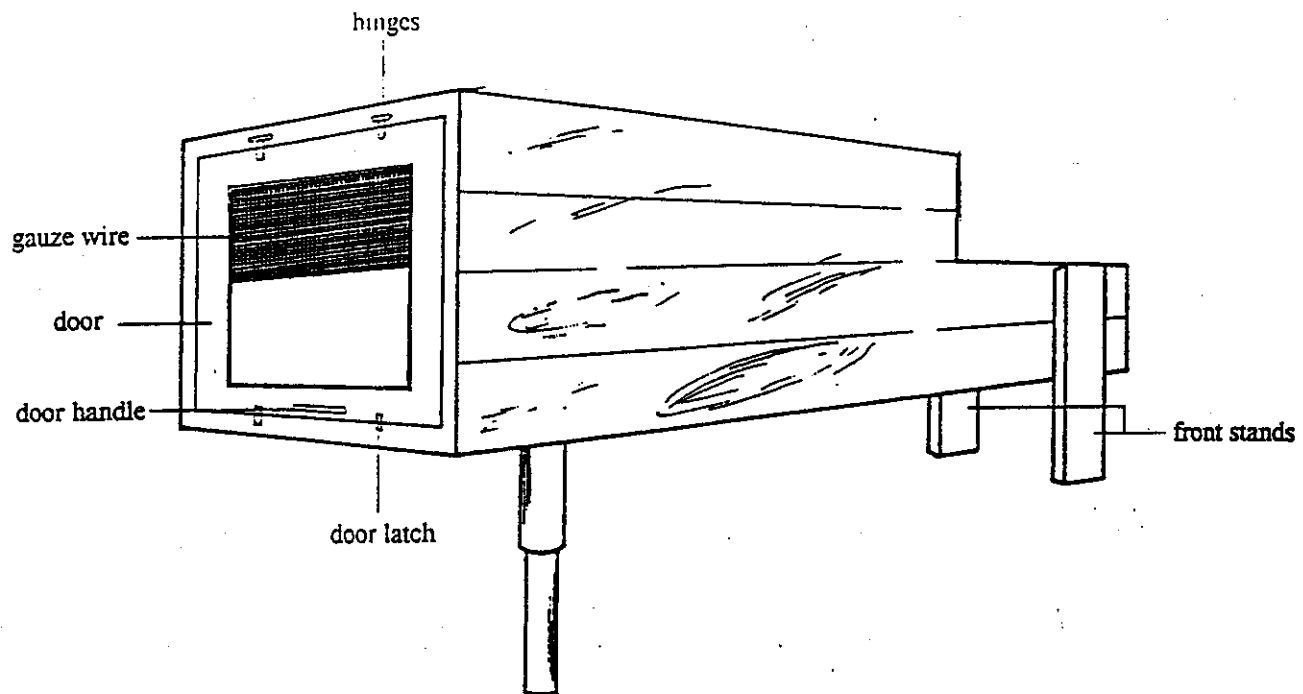
Frame. Bamboo was the least expensive material for the frame in the Philippine project. With bamboo, the slats comprising the arcs are attached to the horizontal frame by cutting a slit just large enough to insert the slats. With rattan, this is done by making splits and ties.

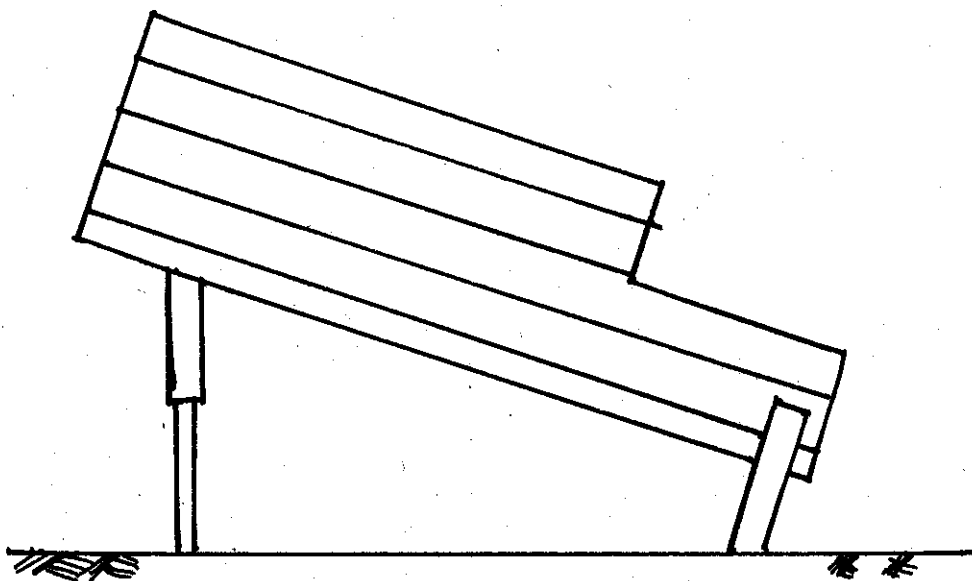
Cover. UV-protected polyethlylene (PE) sheets are recommended for the cover. The study conducted showed that PE sheets accumulated less dust and stayed serviceable even after 31 months of use.

Materials. Note that the materials list in Table 1 is for a 68" X 120" X 12" drier.

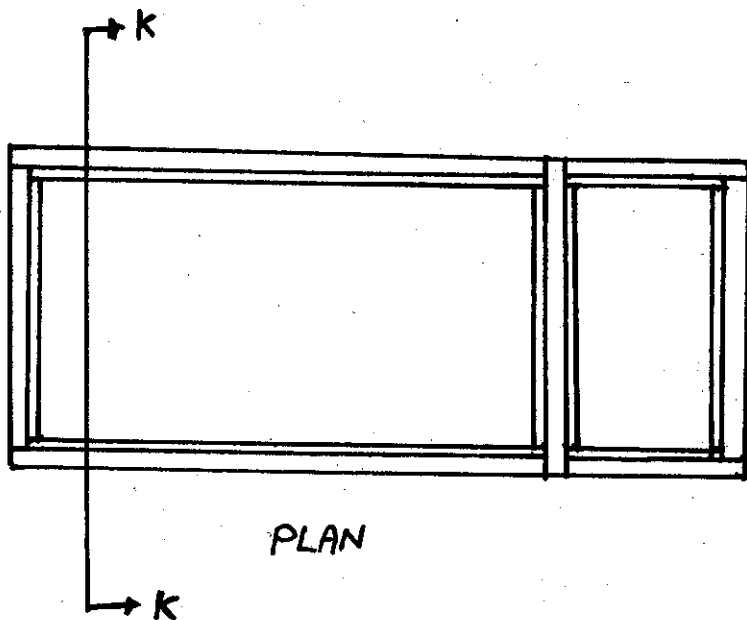
Table 1: Materials for a 68" X 120" X 12" drier.

Quantity	Item
1 pc	Bamboo pole - 7.5' long, 3" diam.
3 pcs	Bamboo pole - 10' long, 3" diam.
1 pc	Bamboo pole - 6' long, 2" diam.
3.25 m	0.125mm X 240 cm UV-protected PE sheet
0.25 Kg	1" common wood nails
0.25 Kg	2" common wood nails
165 sq. in.	Canvas strip (0.45 mm t)
85 pcs	0.5" X 10 mm staple wires

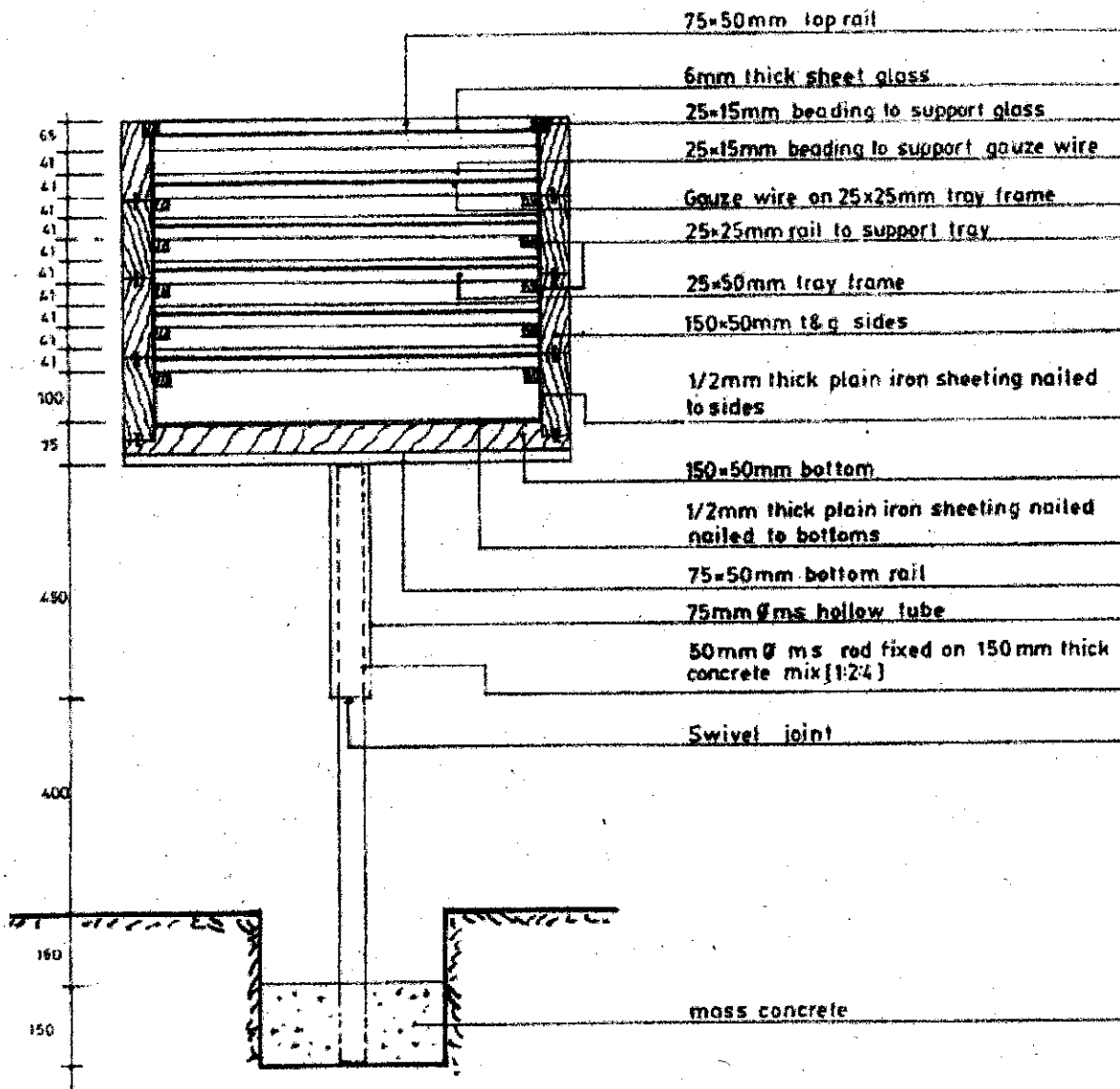




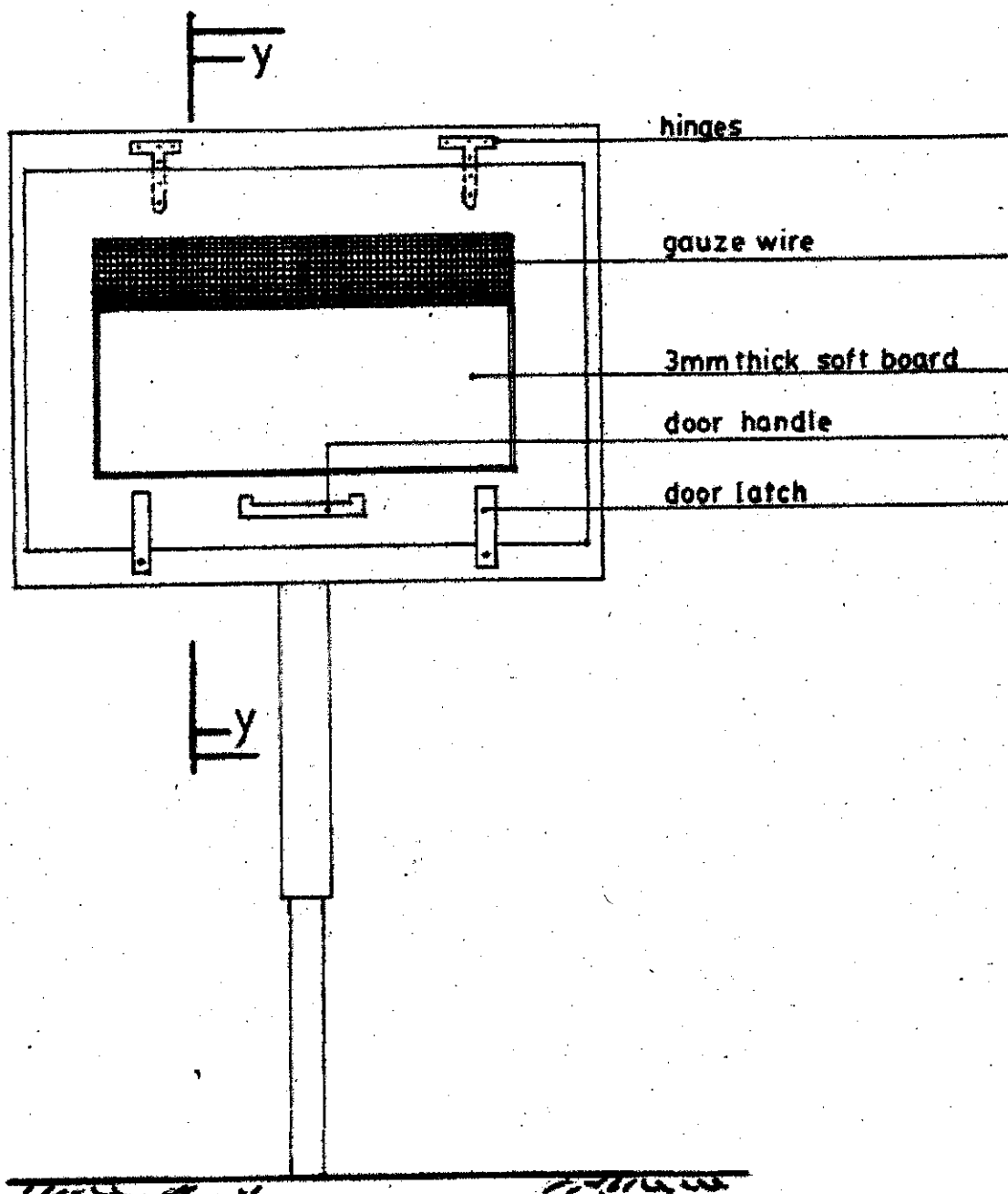
SIDE ELEVATION

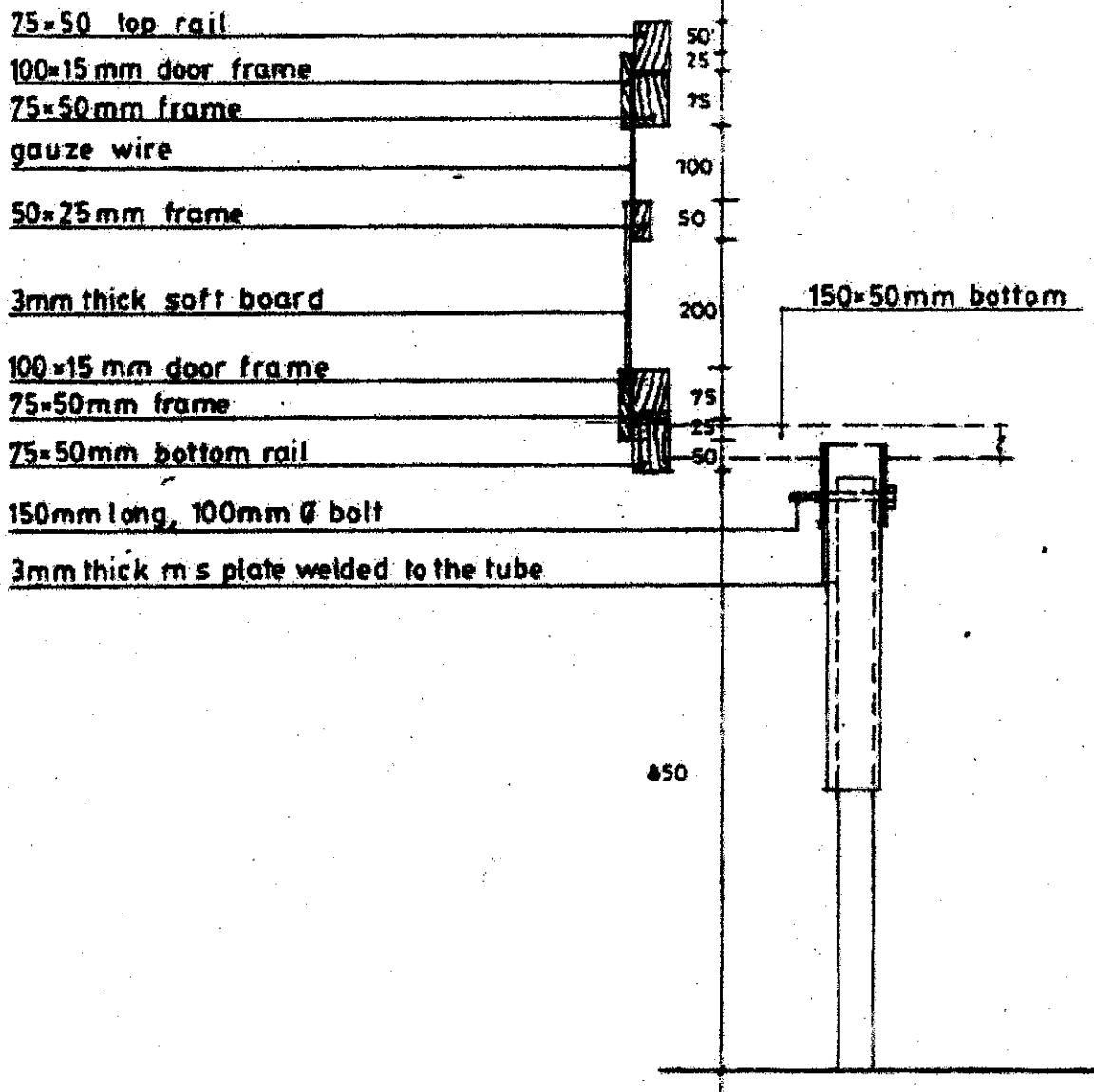


PLAN

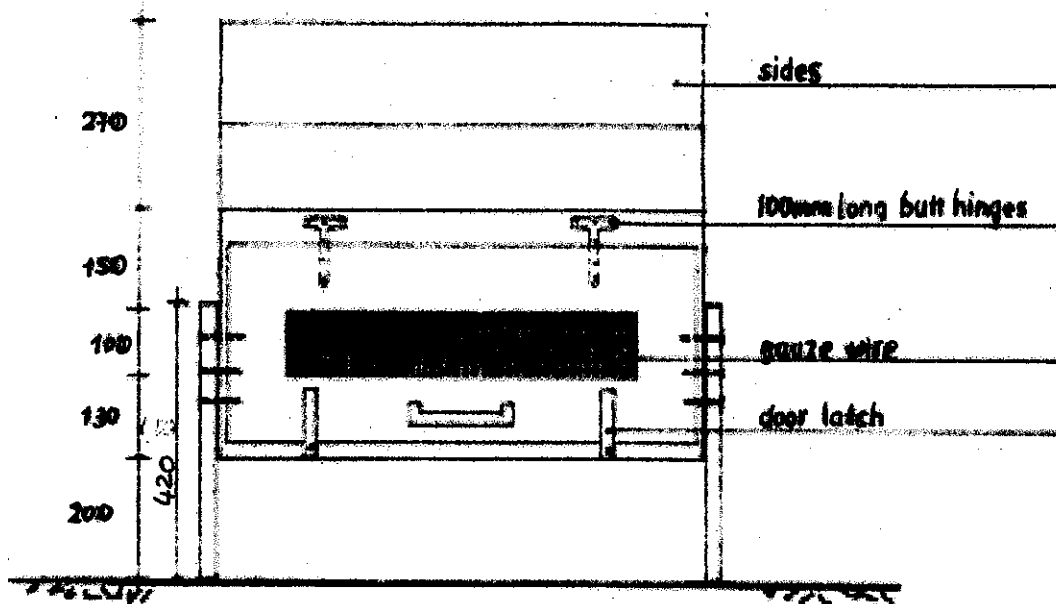


Section K-K



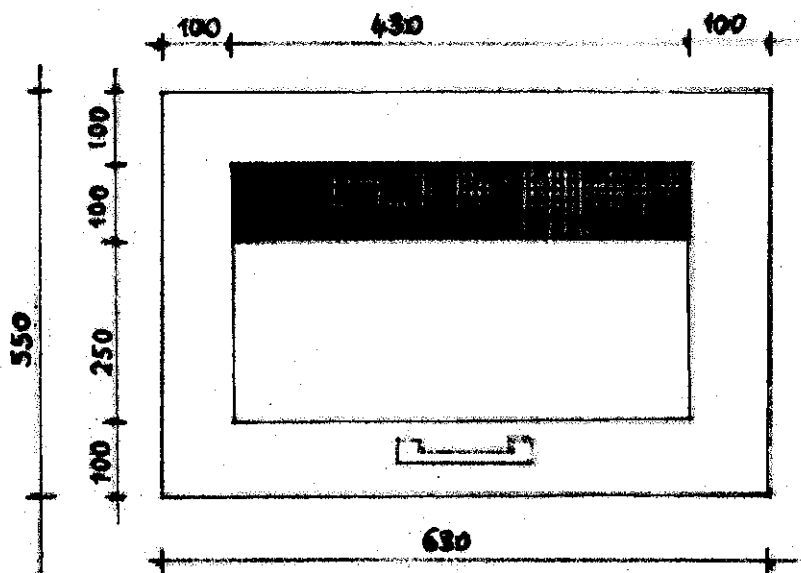


Section thr'o y-y

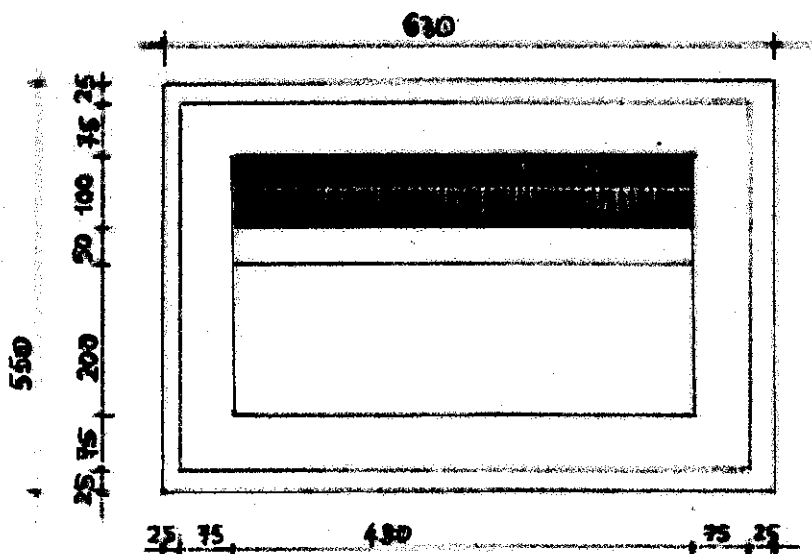


Back Elevation

front door details



elevation from outside



elevation from inside